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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,349	12/23/2003	Bryan K. Casper	INTEL-0064	4699

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EXAMINER

WALLING, MEAGAN S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/743,349	Applicant(s) CASPER ET AL.	
	Examiner Meagan S. Walling	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-17, 19, 20, 22-24 and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 9, 10 and 31-34 is/are allowed.
- 6) ☒ Claim(s) 11-15, 19, 20, 22-24, 26-30 and 35 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 11-15, 20, 22-24, 26-28, 30, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Shou et al. (US 6,563,373).

Regarding claim 11, Shou et al. teaches a processing circuit to receive a signal across a channel and perform signal processing on the signal, the processing circuit including a filtering circuit (Fig. 1) having a plurality of stages to provide a plurality of outputs (10, 20, 30, 40), each of the stages to provide a separate response as an output of a filtering operation, the processing circuit to output a processes signal based on the separate responses (column 4, lines 39-44); and a waveform capture device to capture a waveform of the signal based on the processed signal (60).

Regarding claim 12, Shou et al. teaches that the processing circuit further includes a sampling circuit (10, 20, 30).

Regarding claim 13, Shou et al. teaches that the filtering circuit filters the signal from a channel prior to the sampling circuit (see Fig. 1, Ref. h).

Regarding claim 14, Shou et al. teaches that the sampling circuit samples the signal from a channel prior to the filtering circuit (10, 20, 30).

Regarding claim 15, Shou et al. teaches that the processing circuit modifies a channel response of the received signal (column 4, lines 36-37).

Regarding claim 20, Shou et al. teaches receiving a signal ( $A_{in}$ ) from a channel; modifying a channel response of the received signal by performing a filtering operation on the received signal (column 4, lines 36-37), the filtering operation including dividing the received signal into a plurality of stages and providing a plurality of outputs, each stage providing a separate response as an output of the filtering operation (see Fig. 1); and capturing a waveform of a signal having a modified channel response (see Ref. 60).

Regarding claim 22, Shou et al. teaches a sampling operation of the received signal (see Ref. 10, 20, 30).

Regarding claim 23, Shou et al. teaches that the filtering operation occurs prior to the sampling operation of the received signal (see Fig. 1, Ref. h).

Regarding claim 24, Shou et al. teaches that the sampling operation of the received signal occurs prior to the filtering operation (see Ref. 10, 20, 30).

Regarding claim 26, Shou et al. teaches that each of the stages includes a voltage-to-current converter and a current multiplier (see Fig. 8, V-I CONVERT and MUX<sub>1</sub> - MUX<sub>n</sub>).

Regarding claim 27, Shou et al. teaches that the filtering operation further includes combined filtered responses (40).

Regarding claim 28, Shou et al. teaches that capturing the waveform includes sampling the combined filtered response (see Fig. 1, Ref. h).

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Regarding claim 30, Shou et al. teaches receiving another signal across another channel (Fig 1, Ref. h); modifying a channel response of the received another channel (20, 30); and capturing a waveform of a signal having the modified channel response (60).

Regarding claim 35, Shou et al. teaches that each of the stages includes a voltage-to-current converter and a current multiplier (see Fig. 8, V-I CONVERT and MUX<sub>1</sub> - MUX<sub>n</sub>).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shou et al. in view of Bowers et al. (US 5,648,735).

Shou et al. teaches all of the limitations of claims 19 and 29 except the limitation of skewing a reference current.

Regarding claim 19, Bowers et al. teaches a variable offset to skew a reference circuit (Ref. 26 and column 5, lines 12-14).

Regarding claim 29, Bowers et al. teaches skewing a reference current (column 5, lines 12-14).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Shou et al. with the teachings of Bowers et al. to skew a reference

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current. The motivation for making this combination would be to maintain the reference current in its current state.

***Allowable Subject Matter***

3. Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the indication of allowability of claim 16 is the inclusion of the limitation that the filtering circuit includes a plurality of voltage-to-current converters and a plurality of current multipliers. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

4. Claims 1-7, 9, 10, and 31-34 are allowed.

The following is an examiner's statement of reasons for allowance:

Please see previous office action and applicant's response for reasons for allowance.

***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S. Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw

  
John Barlow  
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